3/EX

Transcript Exhibit(s)

Docket#(s): RR-02634A-07-0160

Exhibit # : S1,

Staff Memorandum

To: THE COMMISSION

From: Safety Division

Date: May 24, 2007

RE: IN THE MATTER OF THE APPLICATION OF MARICOPA COUNTY, ARIZONA TO UPGRADE A CROSSING OF THE UNION PACIFIC RAILROAD AT COTTON LANE IN MARICOPA COUNTY, ARIZONA, AAR/DOT NO.741-781-E.

On March 20, 2007, Maricopa County, Arizona ("County") filed with the Arizona Corporation Commission ("Commission") a request for approval for the Union Pacific Railroad ("Union Pacific") to upgrade an existing crossing at Cotton Lane in Maricopa County, Arizona at AAR/DOT 741-781-E. Staff issued data requests and those data requests and the County's responses (without attachments), are included as attachments to this memorandum.

Maricopa County has jurisdiction over Cotton Lane where Union Pacific railroad tracks and the roadway meet at-grade approximately 200 feet north of MC 85. Decision No. 48737 (February 28, 1978) approved the existing configuration of warning devices which consist of two standard flashing light signals, augmented with automatic gate arms. Commission Rail Safety Section accident / incident records indicate two incidents have occurred at the crossing: one in 1972 and again in 1975. Each incident resulted in a single injury. No accidents or incidents have been reported since the installation of warning devices in 1978.

Maricopa County's filing in this application requests approval for the Union Pacific to install new flashing light signals and gate arms to accommodate a road improvement project on Cotton Lane and MC 85. The Cotton Lane project involves the extension of Cotton Lane south of MC 85 to the Estrella Parkway with a new bridge over the Gila River. The improvements, including the widening of Cotton Lane to six lanes will require the replacement of the existing warning devices. The project includes improvements to the intersection of Cotton Lane and MC 85 including the at-grade intersection of the Union Pacific's track and Cotton Lane, just 200 feet north of MC 85. According to Maricopa County's design engineering consultant, Michael Baker Jr. Engineering, due to the close proximity of the Cotton Lane and MC 85 intersection (which is also at-grade) a grade separation at the railroad is not feasible.

The proposed safety devices for the intersection will include traffic signal preemption devices, LED flashing lights, crossing gates and warning signs. Traffic signal preemption devices are included for the eastbound and westbound traffic along MC85 as well as signs prohibiting turns from MC85 onto northbound Cotton Lane when trains approach. Further, automatic crossing gates will be installed for both northbound and southbound traffic along Cotton Lane. The proposed measures are consistent with safety measures and devices employed at similar crossings in this state.

Based on data received from Maricopa County Department of Transportation ("MCDOT"), average daily traffic ("ADT") counts for Cotton Lane are 2,100 vehicles per day, and 6,100 vehicles per day for MC85 based on 2004 numbers. MCDOT projects that in the year 2015 ADT's will be 27,500 for Cotton Lane, and 35,400 for MC85. At present, MC 85 is uncontrolled (No stop sign or signal) and operates at a level of service ("LOS") A or B. Cotton Lane does not exist south of MC 85 today, and the delays on Cotton Lane north of MC 85 are minimal. Cotton Lane North of MC 85 also operates at a LOS A or B. It should be noted, that in the traffic report analysis supplied by MCDOT, the Cotton Lane/MC85 intersection will operate in the year 2015 at a LOS D during both AM and PM peak hours.

The American Association of State Highway and Transportation Officials (AASHTO) Geometric Design of Highways and Streets, 2004, states that the Level of Service characterizes the operating conditions on a facility in terms of traffic performance measures related to speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience. This is a measure of roadway congestion ranging from LOS A--least congested--to LOS F--most congested. LOS is one of the most common terms used to describe how "good" or how "bad" traffic is projected to be.

There are two alternate routes that can be used on either side of the project location. Both are approximately two miles from the Cotton Lane/MC85 location. Located along MC85 to the west of the intersection is Estrella Parkway, and to the east is Perryville Road. Both are public roadways.

The cost of the proposed crossing upgrade was last estimated to be approximately $379,000. The funding for this project comes from four different sources. The four contributing entities are: MCDOT, the City of Goodyear, Sonterra Partners, and Newland Communities. Union Pacific Railroad will own and bear responsibility for maintaining the physical elements of the crossing, the surface, gates, and flashing lights.

No specific cost estimate was developed for any potential grade separation at the Cotton Lane/MC85 intersection. A similar project completed in December of 2002, by HDR Engineering in association with the City of Goodyear for State Route 303/MC85 to Indian School grade separated interchange was estimated to be $36,255,000(in 2002 dollars). The cost broken down was $24,563,000 for construction, $4,913,000 for contingencies, and $6,779,000 for right of way acquisition.

The Cotton Lane/MC85 interchange was not considered an appropriate opportunity for grade separation for several reasons. First the MC 85/Cotton Lane intersection operates at a LOS D during the AM and PM peak hours. Since this is an acceptable LOS, there was no reason to use a grade separated intersection from a traffic perspective. Further, it would be impractical to grade separate the crossing over the Union Pacific rail line as it would necessitate an abrupt incline to raise over the Union Pacific's rail that would exceed AASHTO's criteria. Likewise, Arizona Department of Transportation has two additional freeways (SR 303L and SR 801) planned in this area. While the alignments have not been finalized, the projects are funded and will be constructed with grade-separated intersections at the Union Pacific crossings. Traffic will be greatly reduced on both MC 85 and Cotton Lane once the freeways have been constructed, minimizing the interaction of train/vehicular traffic at the Cotton Lane/Union Pacific intersection. The locations and types of grade separation structures over the Union Pacific are still being studied. Thus, the cost and location remain unknown, although both are anticipated to be within two miles of the intersection.

However, the planning shows that where the freeways intersect a system interchange will be required. This system interchange should not be located at the MC85 and Cotton Lane intersection because it would be an inordinately expensive location for a system interchange, requiring various additional lengths of bridges to cross the Union Pacific. Thus, the grade separation of the Union Pacific crossing would likely be on Loop 303, and away from the Cotton Lane – MC85 intersection.

Data provided by Union Pacific Railroad states the number of train movements through the crossing to be on average two per day. The movements through the crossing are switching movements only. There are no through freight trains on this track. Union Pacific's maximum allowable timetable speed on this track is 25 miles per hour.

Having reviewed all applicable data, Staff supports the upgrade to the crossing at Cotton Lane/MC85 as presented by MCDOT's application. Staff believes that the upgrade is in the public interest and is reasonable. Therefore, Staff recommends approval of MCDOT's application.

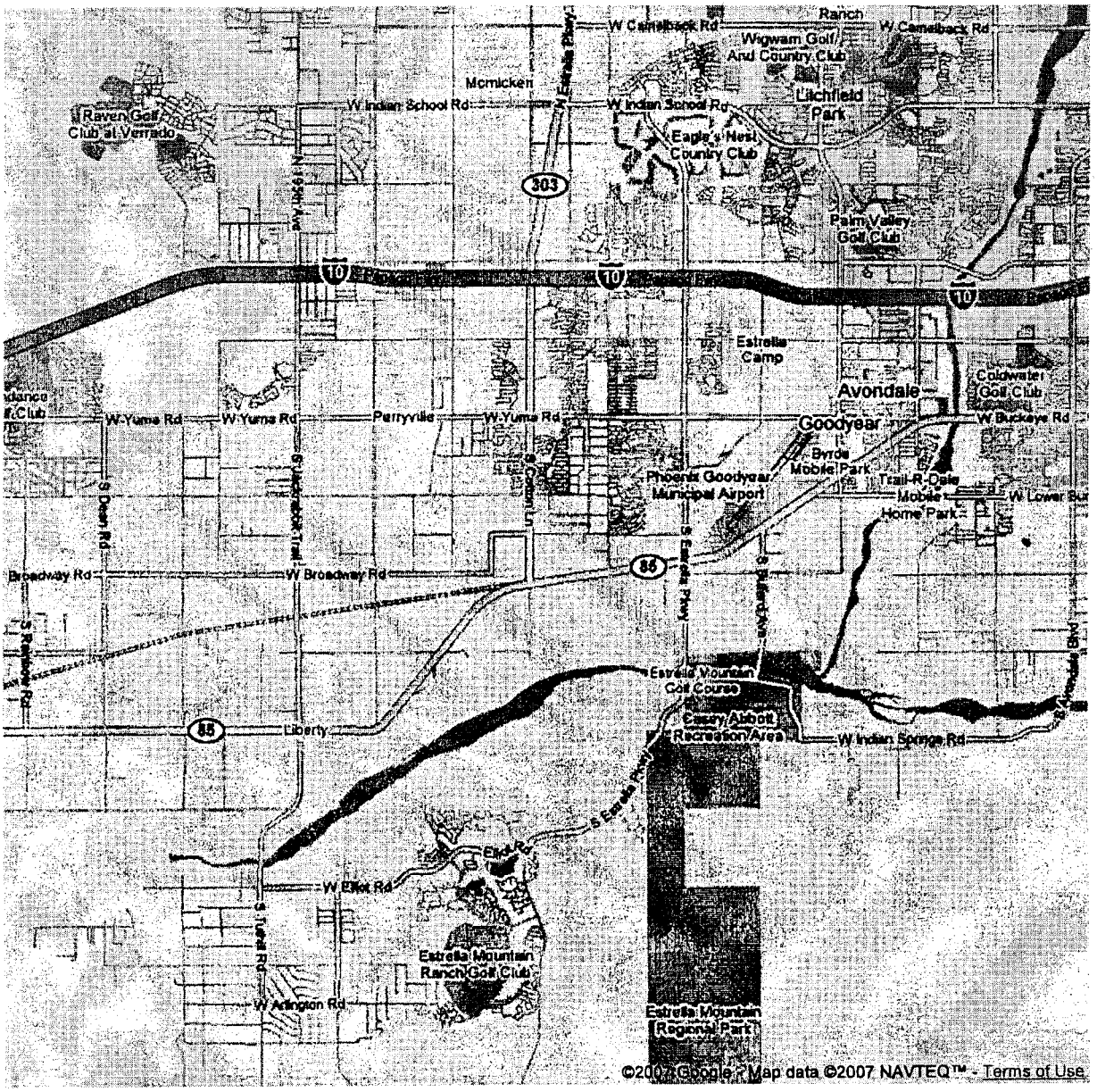
Dave Raber
Director
Safety Division

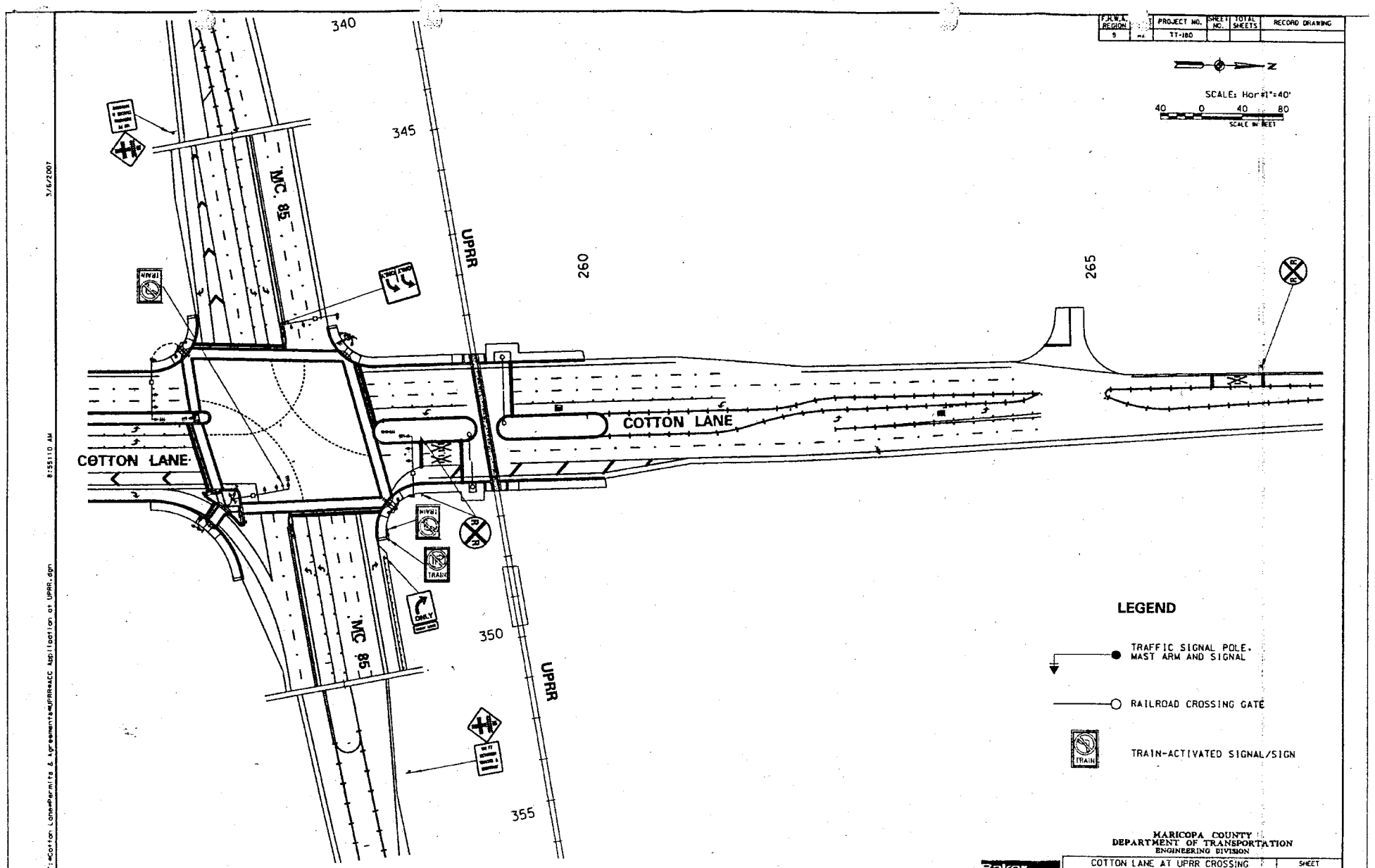
DR: CBW: CHH

Originator: Chris B. Watson

ATTACHMENT B

Google Maps


W Camelback Rd
Ranch
Wigwam Golf And Country Club
W Camelback Rd
Litchfield Park
Memicken
W Indian School Rd
W Indian School Rd
Raven Golf Club at Verrado
Eagle's Nest Country Club
303
Palm Valley Golf Club
10
10
10
Estrella Camp
Avondale
Goodyear
Coldwater Golf Club
W Buckeye Rd
W Yuma Rd
W Yuma Rd
Perryville
W Yuma Rd
Byrd Mobile Park
Trail-R-Dale Mobile Home Park
Phoenix Goodyear Municipal Airport
W Lower Buc
Broadway Rd
W Broadway Rd
85
Estrella Mountain Golf Course
Casey Abbott Recreation Area
W Indian Spring Rd
85
Liberty
S Estrella Pkwy
Elliot Rd
W Elliot Rd
Estrella Mountain Ranch Golf Club
W Arlington Rd
Estrella Mountain Regional Park
©2007 Google - Map data ©2007 NAVTEQ™ - Terms of Use


340
345
260
265
350
355
MC 85
MC 85
UPRR
UPRR
COTTON LANE
COTTON LANE
TRAIN
TRAIN
ONLY
F.H.W.A. REGION
PROJECT NO.
SHEET NO.
TOTAL SHEETS
RECORD DRAWING
TT-180
N
SCALE: Hor. 1"=40'
40 0 40 80
SCALE IN FEET
LEGEND
TRAFFIC SIGNAL POLE, MAST ARM AND SIGNAL
RAILROAD CROSSING GATE
TRAIN-ACTIVATED SIGNAL/SIGN
MARICOPA COUNTY
DEPARTMENT OF TRANSPORTATION
ENGINEERING DIVISION
Baker
COTTON LANE AT UPRR CROSSING
COTTON LANE - MC 85 TO ESTRELLA ROAD MD*TT-180
SHEET 1 OF 1
T:\Cotton Lane\Permits & Agreements\UPRR\ACC Application of UPRR.dgn
3/6/2007
8:55:10 AM

ATTACHMENT C

ARIZONA CORPORATION COMMISSION

April 13, 2007

Patty Pauly
Maricopa County Department of Transportation
2901 West Durango Street
Phoenix, Arizona 85009

Sent via U.S. Mail

Re: Staff's **First** Set of Data Requests to Maricopa County Department of Transportation
Docket No. RR-03639A-07-0160

Dear Ms. Pauly:

Please treat this as Staff's **First** Set of Data Requests to Maricopa County Department of Transportation in the above matter.

For purposes of this data request set, the words "Maricopa County Department of Transportation," "Company," "you," and "your" refer to Maricopa County Department of Transportation and any representative, including every person and/or entity acting with, under the control of, or on behalf of Maricopa County Department of Transportation. For each answer, please identify by name, title, and address each person providing information that forms the basis for the response provided.

These data requests are continuing, and your answers or any documents supplied in response to these data requests should be supplemented with any additional information or documents that come to your attention after you have provided your initial responses.

Please respond within **ten** calendar days of your receipt of the copy of this letter. However, if you require additional time, please let us know.

Please provide one hard copy as well as searchable PDF, DOC or EXCEL files (via email or electronic media) of the requested data directly to each of the following addressees via overnight delivery services to:

(1) Chris Watson, Railroad Safety Inspector, Arizona Corporation Commission, 2200 North Central Ave., Suite 300, Phoenix, Arizona 85004.

(2) Charles H. Hains, Attorney, Arizona Corporation Commission, 1200 West Washington Street, Phoenix, Arizona 85007.

Sincerely,

Charles H. Hains
Attorney, Legal Division
(602) 542-3402

CHH:sab
Enclosure
cc: Chris Watson

ARIZONA CORPORATION COMMISSION
STAFF'S FIRST SET OF DATA REQUESTS TO
MARICOPA COUNTY DEPARTMENT OF TRANSPORTATION
DOCKET NO. RR-03639A-07-0160
APRIL 13, 2007

Subject: **All information responses should ONLY be provided in searchable PDF, DOC or EXCEL files via email or electronic media.**

The following First Set of Data Requests is in regards to: Application of Maricopa County, Arizona to Upgrade a Crossing of the Union Pacific Railroad at Cotton Lane in Maricopa County, Arizona, AAR/DOT NO. 741-781-E.

CW 1.1 Provide Average Daily Traffic Counts for this location.

CW 1.2 Provide Annual Average Traffic Counts.

CW 1.3 Provide a ten year traffic projection for this area.

CW 1.4 Provide distances in miles to the next public crossing on either side of the proposed project location.

CW 1.5 If this crossing was to be grade separated, proved a cost estimate of the project.

CW 1.6 Your application stated that "due to the close proximity of the Cotton Lane and MC85 intersections, a grade separated crossing at the railroad is not feasible." Was this decision determined by an engineering study? If yes, please provide the study. If no, how was this decision determined?

CW 1.7 Please provide the following information from the railroad: number of daily train movements through the crossing, speed of the trains, and the type of movements being made (i.e. thru freight or switching).

Maricopa County
Public Works

2901 W. Durango St
Phoenix, AZ 85009
Phone: 602-506-4889
Fax: 602-506-5969
www.maricopa.gov

Maricopa County Department of Transportation Response To:
Staff's First Set of Data Requests to Maricopa County Department of Transportation
Docket No. RR-03639A-07-0160

CW 1.1
Based on MCDOT 2004 #'s
Cotton Lane north of MC 85 - 2,100 VPD (2.1) MC 85 - 6,100 VPD (2.1)

CW 1.2
No information

CW 1.3
2015 Cotton Lane - 27,500 (3.1)
2015 MC 85 - 35,400 (4.1)

CW 1.4
Measurements taken from County Assessor website map:
http://www.maricopa.gov/Assessor/GIS/Map.html

Cotton Lane to Estrella Parkway - 2.0 mi

Cotton Lane to Perryville Road - 2.0 mi (along UPRR alignment) Cotton Lane to Perryville Road - 2.8 mi (along MC 85 alignment)

CW 1.5
The cost estimate is from the final Design Concept Report State Route Loop 303 (SR303L) MC85 to Indian School Road Contract No. CY2001-42 Work order No. 69028 completed December 2002 done for MCDOT and in association with the City of Goodyear prepared by HDR Engineering Inc. gives the estimated cost (in 2002 dollars) for the grade separated interchange for MC85 and Loop 303 over the railway line as $36,255,000. The cost is as follows construction $24,563,000 contingencies $4,913,000 Right of Way $6,779,000. The info is on page 97 and also the phase 6 is given on page 77 in table 8.9

CW 1.6
There was no specific study performed other than the Traffic Report.

The intersection was not considered as a grade separated intersection for 2 reasons.

First the MC 85/Cotton Lane intersection, as it is shown in the plans, operates at a Level of Service (LOS) D during the AM and PM peak hours. Since this is an acceptable LOS, there was no reason to use a grade separated intersection from a traffic perspective. With the MC 85/Cotton Lane intersection being at-grade, it isn't practical to raise the grade quick enough to go over the UPRR without exceeding AASHTO's criteria.

Second, ADOT has two additional freeways (SR 303L and SR 801) planned in this area. While the alignments have not been finalized, the projects are funded and will be constructed with grade-separated intersections at the UPRR crossings. Traffic will be greatly reduced on both MC 85 and Cotton Lane once the freeways have been constructed, minimizing the interaction of train/vehicular traffic at the Cotton Lane/UPRR intersection.

CW 1.7
Number of daily train movements through the crossing: 2 per day average
Speed of trains: maximum time table speed = 25 miles per hour
Type of movements being made: switching only

ATTACHMENT D

ARIZONA CORPORATION COMMISSION

May 4, 2007

Via E-mail and United States Mail

Jean W. Rice, Esq.
Maricopa County Attorney Civil Division
222 North Central Ave, Suite 1100
Phoenix, Arizona 85004-2206
rice@mcao.maricopa.gov

Patty Pauly
Maricopa County Department of Transportation
2901 West Durango Street
Phoenix, Arizona 85009
patriciapauly@mail.maricopa.gov

Re: Staff's **Second** Set of Data Requests to Maricopa County Department of Transportation
Docket No. RR-03639A-07-0160

Dear Ms. Rice and Pauly:

Please treat this as Staff's **Second** Set of Data Requests to Maricopa County Department of Transportation in the above matter.

For purposes of this data request set, the words "Maricopa County Department of Transportation," "Company," "you," and "your" refer to Maricopa County Department of Transportation and any representative, including every person and/or entity acting with, under the control of, or on behalf of Maricopa County Department of Transportation. For each answer, please identify by name, title, and address each person providing information that forms the basis for the response provided.

These data requests are continuing, and your answers or any documents supplied in response to these data requests should be supplemented with any additional information or documents that come to your attention after you have provided your initial responses.

Please respond within **ten** calendar days of your receipt of the copy of this letter. However, if you require additional time, please let us know.

Please provide one hard copy as well as searchable PDF, DOC or EXCEL files (via email or electronic media) of the requested data directly to each of the following addressees via overnight delivery services to:

(1) Chris Watson, Railroad Safety Inspector, Arizona Corporation Commission, 2200 North Central Ave., Suite 300, Phoenix, Arizona 85004.

(2) Charles H. Hains, Attorney, Arizona Corporation Commission, 1200 West Washington Street, Phoenix, Arizona 85007.

Sincerely,

CHH:sab
Enclosure
cc: Chris Watson

Charles H. Hains
Attorney, Legal Division
(602) 542-3402

ARIZONA CORPORATION COMMISSION
STAFF'S SECOND SET OF DATA REQUESTS TO
MARICOPA COUNTY DEPARTMENT OF TRANSPORTATION
DOCKET NO. RR-03639A-07-0160
MAY 4, 2007

Subject: **All information responses should ONLY be provided in searchable PDF, DOC or EXCEL files via email or electronic media.**

CW 2.1 In response to staff's first data request, MCDOT provided a traffic analysis for the Cotton Lane/MC85 area. In the analysis, there are frequent references to Level of Service (LOS). Could you give a brief explanation as to what Level of Service is, and how it is determined.

CW 2.2 Please explain the difference in how the LOS for the route is determined as opposed to the intersection.

CW 2.3 What is the present Level of Service for this intersection? What is the peak hour rate of vehicles? AM? PM?

CW 2.4 In your Traffic Analysis Report of the Cotton Lane area, you state that traffic at the intersection will progressively impair flow to the point where it reaches an "F" LOS by 2017, meaning, there will be a total breakdown of traffic flow. Would grade separating this crossing now alleviate that breakdown in 2017?

CW 2.5 What is the land on either side of the intersection zoned for? Is it reasonable to assume that large numbers of people will rely on this intersection to access their communities?

CW 2.6 Could you elaborate on any plans for future grade separations in the area.

CW 2.7 In your Traffic Analysis, you point out that the loop 303/MC85 to Indian School Road Grade Separation would be similar to what would be proposed at the Cotton Lane intersection. How was the decision made to grade separate at that location? Was cost an issue at that location? How was that project funded, and did the railroad contribute to the funding of the grade separation?

CW 2.8 Is there a plan in place as to how a grade separation will be funded in the future at Cotton Lane and MC85?

CW 2.9 Please explain what a "roundabout" is, and if this is what is being considered for the future of Cotton Lane.

CW 2.10 In respect to cost, your report states that you will have to eventually grade separate this intersection. Do you think it is possible that it could be cheaper to construct the project now rather than at the time it would be needed? Is it possible that maintenance of the project before the need for it exists would be costly enough to outweigh cost savings from early construction? What are the yearly costs of a grade separation?

ARIZONA CORPORATION COMMISSION
STAFF'S SECOND SET OF DATA REQUESTS TO
MARICOPA COUNTY DEPARTMENT OF TRANSPORTATION
DOCKET NO. RR-03639A-07-0160
MAY 4, 2007

Subject: **All information responses should ONLY be provided in searchable PDF, DOC or EXCEL files via email or electronic media.**

CW 2.11 Are there any emergency service facilities located along this route that would be a destination for emergency crews, i.e. police stations, fire houses, hospitals etc?

Maricopa County
Public Works

2901 W. Durango St
Phoenix, AZ 85009
Phone: 602-506-4889
Fax: 602-506-5969
www.maricopa.gov

MARICOPA COUNTY DEPARTMENT OF TRANSPORTATION RESPONSE TO ARIZONA CORPORATION COMMISSION STAFF'S SECOND SET OF DATA REQUESTS TO DOCKET NO. RR-03639A-07-0160 DATED MAY 4, 2007

Question CW 2.1

In response to staff's first data request, MCDOT provided a traffic analysis for the Cotton Lane/MC85 area. In the analysis, there are frequent references to Level of Service (LOS). Could you give a brief explanation as to what Level of Service is, and how it is determined.

Response CW 2.1

The American Association of State Highway and Transportation Officials (AASHTO) Geometric Design of Highways and Streets, 2004, states that the Level of Service characterizes the operating conditions on a facility in terms of traffic performance measures related to speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience. This is a measure of roadway congestion ranging from LOS A--least congested--to LOS F--most congested. LOS is one of the most common terms used to describe how "good" or how "bad" traffic is projected to be. LOS serves as a benchmark to determine whether new development will comply with an existing LOS or if it will exceed the preferred or adopted LOS. As part of planning for new projects or developments, transportation professionals conduct a Traffic Impact Study (TIS). The TIS determines how specific streets and intersections will function with increased traffic volumes either with or without improvements.

There are six levels of service letter grades typically recognized by transportation planners and engineers. They are as follows:

Level of Service A
Level of Service A describes a condition of free flow, with low volumes and high speeds.

Level of Service B
Level of Service B is the zone of stable flow, with operating speeds beginning to be restricted

somewhat by traffic conditions. Drivers still have reasonable freedom to select their speed and lane of operation.

Level of Service C
Level of Service C is the zone of mostly stable flow, but speeds and maneuverability are more closely constricted by the higher volumes.

Level of Service D
Level of Service D is a zone that approaches unstable flow, with tolerable operating speeds, however driving speed is considerably affected by changes in operating conditions.

Level of Service E
Level of Service E is a zone that cannot be described by speed alone. Operating speeds are lower than in Level D, with volume at or near the capacity of the highway.

Level of Service F
Level of Service F is a zone in which the operating speeds are controlled by stop-and-go mechanisms, such as traffic lights. This is called forced flow operation. The stoppages disrupt the traffic flow so that the volume carried by the roadway falls below its capacity; without the stoppages, the volume of traffic on the roadway would be higher or in other words, it would reach capacity.

It should be noted that LOS is a measure of a roadway segment's (zone's) efficiency at moving automobiles through the zone. By definition, it places a high emphasis on the free-flowing speeds of autos and does not give consideration to the comfort or safety other roadway users such bicyclists or pedestrians.

Question CW 2.2 Please explain the difference in how the LOS for the route is determined as opposed to the intersection.

Response CW 2.2 Level of Service for signalized intersections is characterized by delays in vehicles per second. Level of service for a route varies depending on type of route (urban arterial, two lane highway, etc.) Factors

include average speeds compared to free flow speeds, percent time spent following, and maximum volume to capacity ratios.

In the Cotton Lane MC85 to Estrella Parkway Final Traffic Analysis Memorandum, page 14, section 4.1 Roadway Level of Service Analysis gives the Level of Service (LOS) criteria for multilane highways. The LOS goes from A to E and the maximum density (pc/mi/ln) [passenger car/mile/lane] goes from 11 to 40 respectively. Also on page 14 of the report Table 4.1 gives the 2015 roadway LOS for Cotton Lane and MC85 as LOS D.

On page 16 of the report the intersection analysis is shown for Cotton Lane and MC85. Here we see that the intersection will operate for the year 2015 at LOS D during both AM and PM peak hour. Furthermore, the various LOS for different lane movements are also described.

Question CW 2.3

What is the present Level of Service for the intersection? What is the peak hour rate of vehicles? AM? PM?

Response CW 2.3

Attachment "A" is an extract from the Maricopa County Department of Transportation web page showing the traffic counts available for the Cotton Lane - MC 85 intersection. The intersection count for 2004 and 2005 is as follows:

MC85 Eastbound AM Peak 333, PM Peak 363, Average Daily Traffic 4141
MC85 Westbound AM Peak 361, PM Peak 391, Average Daily Traffic 4408
Cotton Lane Northbound, AM Peak 191, PM Peak 203, Average Daily Traffic 2580
Cotton Lane Southbound, AM Peak 8, PM Peak 12, Average Daily Traffic 80

The low traffic count on Cotton Lane Southbound is because the road is now being constructed as a major arterial, whereas before it was basically only a farm road access.

At present, MC 85 is uncontrolled (No stop sign or signal) and operates at a level of service A or B. Cotton Lane does not exist south of MC 85 today, and the delays on Cotton Lane north of MC 85 are minimal. Cotton Lane North of MC 85 also operates at a level of service A or B.

Question CW 2.4

In your Traffic Analysis Report of the Cotton Lane area, you state that the traffic at the intersection will progressively impair the flow to the point where it reaches an "F" LOS by 2017, meaning, there will be a total breakdown of traffic flow. Would grade separating this crossing now alleviate that breakdown in 2017?

Response CW 2.4

Maricopa Association of Governments (MAG) is the official body that studies and models the long term traffic volumes in the Phoenix Metropolitan Area. At the time the Cotton Lane MC85 to Estrella Parkway Final Traffic Analysis Memorandum report was prepared October 12, 2005, the future Loop 303 was assumed to be located on the Cotton Lane alignment through the MC85 intersection. This alignment model caused a significant increase in the proposed traffic volumes. Arizona Department of Transportation has appointed consultants that are studying new alternative alignments for both the future Loop 303 and future SR801 which are both freeways. Both freeways will be intersecting and passing in close proximity (0-2 miles) to the MC85 and Cotton lane intersection. Once it became apparent that the future Loop 303 would likely be relocated off Cotton Lane, an attempt was made to remove these volumes from the previously projected Cotton Lane volume numbers. The reduction in volume was done based on conservative assumptions. Additional volume reductions may be possible once the final location Loop 303 is completed. Furthermore, the impacts of the I-10 reliever or SR801 are also not known at this time. In the future, there may be a network of signals that platoon traffic through the local intersections, effectively metering traffic volumes. In addition, the future contribution of MC 85, once the I-10 reliever is constructed, is also under consideration.

The final results of these various studies will have an effect on the traffic volumes in 2017 on the intersection of MC85 and Cotton Lane. One thing is certain, a freeway attracts traffic away from the local major arterials, and thus the future traffic volumes should be reduced at this intersection.

It should be noted that the "Breakdown" for the intersection in 2017 noted in the Traffic Analysis Report will likely not be realized.

Question CW 2.5 — What is the land on either side of the intersection zoned for? Is it reasonable to assume that large numbers of people will rely on this intersection to access their communities?

Response CW 2.5 — The current zoning for the land surrounding the RR X-ing is I-2 (Industrial). The land south of MC85 is currently zoned AU (Urban Agricultural). The future land use for the area surrounding the RR X-ing is General Industrial and Commercial. Future land use south of MC85 is a mix of commercial and residential.

Question CW 2.6 — Could you elaborate on any plans for future grade separations in the area.

Response CW 2.6 — The future freeway alignments for Loop 303 and SR801 are yet to be approved, and once approved, that will determine where and what type of grade separation over the UPRR is appropriate. See response in CW2.7

Question CW 2.7 — In your Traffic Analysis, you point out that the loop 303/MC85 to Indian School Road Grade Separation would be similar to what would be proposed at the Cotton Lane intersection. How was the decision made to grade separate at the location? Was cost an issue at that location? How was that project funded, and did the railroad contribute to the funding of the grade separation?

Response CW 2.7 — Included in the Final Design Concept Report, State Route Loop 303 (SR303L), from MC85 to Indian School Road, December 2002, was a design report

for future loop 303 which was a 10-15 % design level report. At this level, the report basically looks at a future alignment and very basic engineering level design (no detail design). The previous chosen Future Loop 303 alignment was on the Cotton Lane road section line, and went from MC85 to Indian School Road. At this preliminary design level we estimated the cost of a grade separation interchange to be approximately $36,255,000.

At the time of this study, Maricopa Association of Governments (MAG) used this information to develop a MAG Regional Transportation Plan (MAG RTP); some of this information is in Attachment "B" Chapter One, "Introduction". The MAG RTP considers all the funding of the future Freeways and Major Highways. In Attachment "B," the funding-cost tables are shown on page 2 of 13, for the I-10 Reliever Construction from South Mountain Freeway to SR85, the I-10 Reliever Multi Phase, and the I-10 Reliever R/W (Right of Way) costs. Furthermore, on page 7 of 13 and page 8 of 13 the funding for 303L, from I-10 to the I-10 Reliever is shown including the years in which the funding is allocated.

It is important to note that the I-10 Reliever is now known as SR801 and that the future freeway alignment has not been determined, but is being studied by ADOT. The future alignment of Loop 303 from I-10 southward to intersect with SR801 is also being studied by ADOT. Thus, the Loop 303 freeway-UPRR crossing, has not been determined, but is very unlikely to be on the existing Cotton Lane alignment and the MC85 intersection. The future freeways, SR801 and Loop 303, will have an impact on the future traffic circulation in this region. It should be noted that the planned funding for the actual final design and construction is 10 to 15 years in the future.

Question CW 2.8 — Is there a plan in place as to how a grade separation will be funded in the future at Cotton Lane and MC85?

Response CW 2.8 — Please see the response in CW2.7 above and in Attachment "B" where the funding strategy is shown.

Question CW 2.9	Please explain what a "roundabout" is, and if this is what is being considered for the future of Cotton Lane.
Response CW 2.9	Modern Roundabout Solution, shown in Attachment "C," explains what a roundabout is. A roundabout is being constructed at the intersection of Cotton Lane and Estrella Parkway which is 3 mile south of the intersection of Cotton Lane/UPRR level crossing. A roundabout would not be considered at the intersection of MC85/Cotton Lane and the UPRR level crossing.
Question CW 2.10	In respect to cost, your report states that you will have to eventually grade separate this intersection. Do you think it is possible that it could be cheaper to construct the project now rather than at the time it would be needed? Is it possible that maintenance of the project before the need for it exists would be costly enough to outweigh cost savings from early construction? What are the yearly costs of a grade separation?
Response CW 2.10	As stated in CW 2.7 above, the location and what type of grade separation structure over the UPRR is still being studied. Thus, the cost and location is still unknown, but the planning shows, that where the freeways intersect, a system interchange will be required. This system interchange should not be located at the MC85 and Cotton Lane intersection because it would be a very expensive system interchange, requiring various additional lengths of bridges to cross the UPRR. Thus, the grade separation of the UPRR crossing would likely be on Loop 303, and away from the Cotton Lane – MC85 intersection. The future freeway network, which will carry the majority of the vehicle traffic in the region, will have to include the grade separation structure over the UPRR. This grade separation structure must be consistent with the freeway geometric standard and would thus be more costly than a normal arterial grade separation crossing.

	The cost of the future planned structures is unknown as are the maintenance cost.
Question CW 2.11	Are there any emergency service facilities located along this route that would be a destination for emergency crews, i.e. police stations, fire houses, hospitals etc?
Response CW 2.11	All the roads are public roads, and they will be used by emergency services irrespective of where they are located. In this particular area Newland Communities, located 3 miles south of MC85 has neither a hospital nor any major commercial developments in the community, and this new road and river crossing will bring major relief for future traffic movements.